and using wavelength compensated lights outputted from the first output waveguides of the arrayed waveguide grating.

In this embodiment, this wavelength compensation method uses the arrayed waveguide grating module having the arrayed waveguide grating as set forth in connection with the second aspect of the present invention. The wavelength compensation is performed by inputting the monitor light signal for checking from either one of the input waveguides and detecting the monitor light signal outputted from the second output waveguide. Subsequently, a signal processing by inputting the actually used light signals from the adjusted arrayed waveguide grating module and using the wavelength compensated light signals outputted from the first output waveguides of the arrayed waveguide grating.

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According to a fifteenth aspect of the present invention, there is provided a wavelength compensation method in an arrayed waveguide grating module according to one of claims 13 and 14, wherein in the adjusting step the arrayed waveguide grating module is adjusted by controlling the temperature of the arrayed waveguide grating by using a temperature control circuit assembled in the arrayed waveguide grating module such that the second output waveguide outputs a monitor light having a predetermined wavelength.

In this embodiment, in the wavelength compensation method in the arrayed waveguide grating module as set